

REMARKS

Claims 1-15 remain in the application. The potential allowability of claims 5-7 and 9-14 is noted with appreciation.

Claims 1-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 97/09596 ("WO") in view of the U.S. Patent to Martin et al. ("Martin") No. 5,438,322. This rejection is respectfully traversed. Both the WO and Martin references are cited in the introduction of the subject application, and the rejected claims, including also claims 8 and 15, were carefully drafted to avoid this conventional prior art.

As discussed on pages 2 and 3 of the subject application, WO describes a sensor for detection of status data, including temperature, in an electric motor. The sensor is formed from a surface wave acoustic element, i.e., a SAW chip. The SAW chip's properties are altered as a function of the physical conditions which have to be measured, which results in alteration of the transmitting function. A polling signal in the form of a radio signal with specific properties is transmitted from a polling unit and received by the SAW chip. There it is converted to an electrical signal and then to an acoustic signal which is transmitted along the element's surface and reflected, whereupon it is converted back first to an electrical signal and then to a radio signal which is returned to the polling unit. There the physical status data are derived based on the changes in the polling signal which are a result of changes in the SAW chip's transmitting function. The publication describes how it is possible to place the sensor inside a winding and connect it to an antenna which is located on the outside thereof. However, it does not describe how such a sensor may be designed in order to be capable of being installed in a suitable manner and to be sufficiently robust to be used in a particularly harsh environment. Because of this lack of robustness, the WO sensor

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would not appear suitable for application in connection with engines, especially where the measurements must be taken deep within the engines.

The Examiner proposes to overcome the deficiency in WO by incorporating the Martin structure. Martin discloses a temperature sensor in the form of a bolt. The sensor is not meant to supply information on the level of temperature but is only designed to send an alarm signal if a threshold is exceeded. The element in Martin is not able to perform the same function as the invention. The Examiner draws a conclusion that it would be obvious to take the device in Martin and put it in the winding described in the WO publication so as to arrive at the invention. This is not believed to be correct because the device in Martin is not adapted to measure temperature. Martin does not measure variations in temperature but rather responds only to a temperature threshold and, as such, is either on or off. If Martin's device is substituted into the proposed combination, the result is to eliminate the need for a SAW chip because no measurement of temperature variation is thereafter attainable.

Furthermore, there is no motivating suggestion to make the modification proposed by the Examiner. The mere fact that the prior art may be modified as suggested by the Examiner does not make the modification obvious unless the prior art suggests the desirability of the modification. The Examiner appears to rely only on an argument of "inherency" (Office Action, page 3) to propose that the WO device be enclosed in a housing. But this argument is not supported by citation of a reference and appears to be derived instead from applicant's own teaching. Otherwise, there is no rational explanation of discarding, as the Examiner must do, the Martin invention while retaining only the housing bolt.

Claim 8 stands rejected under 35 U.S.C. § 103(a) based on WO and Martin further in view of the U.S. Patents to Schurmann No. 5,513,525 and Fernandes No. 4,855,671. This rejection is respectfully traversed because neither reference overcomes the deficiencies in the proposed combination of WO and Martin set forth above. Furthermore, Fernandes teaches that a plurality of sensors can be multiplexed for a single receiver (second antenna) to receive a signal from one sensor at a time. In contrast, the present invention describes a device where a multiplexer is preferably situated in the control unit and its function is to choose to which of a plurality of sensors the interrogating signal shall be transmitted. In other words, the control unit is connected to a plurality of transmitting antennas through the multiplexer, and one of these antennas is chosen at a time by the microcontroller controlling the multiplexer. Each transmitting antenna transmits to only one sensor at a time. This is different from the teaching in Fernandes which is to employ a multiplexer to reduce the number of receiving antennas to one. The present invention comprises a device in claim 8 where the number of transmitting antennas equals the number of receiving antennas.

Claim 15 stands rejected under 35 U.S.C. § 103(a) based on WO and Martin further in view of Schurmann. This rejection is also respectfully traversed because the conventional arrangement in Schurmann does not overcome the deficiencies in the proposed combination of WO and Martin set forth above.

Reconsideration and allowance of claims 1-15 are earnestly solicited.

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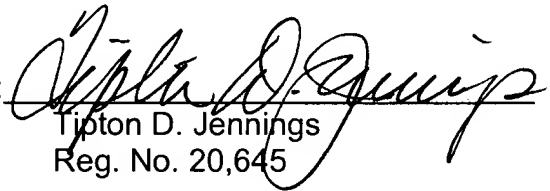
Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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